

CLAIMS

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A method for fabricating a high density ceramic thick film comprising the steps of:

- 5        providing vehicle comprising an organic binder and solvent;  
         dispersing ceramic powders into the vehicle to be paste;  
         forming the paste to thick film by screen printing;  
         removing the organic binder from the film;  
         applying sol or sol-like solution to the surface of the film so that the sol  
10    or sol-like solution can infiltrate into the film;  
         removing remaining sol or sol-like solution from the surface of the film by  
         spinning the film;  
         drying and preheating the film; and  
         sintering the film at the range from 700 to 1200°C.
- 15        2.        The method of claim 1, wherein the sol-like solution has metal  
         organic PZT component separated, mixed or dissolved in a solvent.
- 20        3.        The method of claim 1, wherein the sol or sol-like solution are  
         identical components with the ceramic powder.
4.        The method of claim 1, wherein the sol or sol-like solution are not  
         identical components with the ceramic powder.

5. The method of claim 1, wherein the thick film is densified by forming a thick film with a certain thickness by screen printing, then having the sol and sol-like solution infiltrated into the surface of the thick film and performing the process repeatedly more than twice.

~~sub A2~~ 6. The method of claim 1, wherein sintering temperature is 800 to 900°C in case of sintering.

- 10 7. The method of claim 1, wherein the thickness of the thick film is at the range of 1 to 200  $\mu\text{m}$ .

8. A method for fabricating a high density ceramic thick film comprising the steps of:

- 15 providing vehicle comprising an organic binder and solvent;  
dispersing ceramic powders into the vehicle to be paste;  
forming the paste to thick film by screen printing;  
removing the organic binder from the film;  
applying sol or sol-like solution to the surface of the film so that the sol  
20 or sol-like solution can infiltrate into the film; and  
sintering the film at 600 to 700°C.

~~sub A3~~ 9. A method for fabricating a high density ceramic thick film

comprising the steps of:

providing vehicle comprising an organic binder and solvent;

dispersing ceramic powders into the vehicle to be paste;

forming the paste to thick film by screen printing;

5 removing the organic binder from the film;

applying sol or sol-like solution to the surface of the film so that the sol  
or sol-like solution can infiltrate into the film;

removing remaining sol or sol-like solution from the surface of the film by  
spinning the film;

10 drying and preheating the film;

sintering the film;

applying sol or sol-like solution to the surface of the film again so that the  
sol or sol-like solution can infiltrate into the film; and

15 sintering the film;